Amendments to the Claims:

Please cancel Claims 27-30. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing:

1. (Previously Presented) A method of producing purified caveolae, comprising the step of subjecting a sample of interest comprising plasma membranes to an immunoisolation method to separate caveolae from other materials in the sample of interest, wherein the immunoisolation method comprises incubating the sample of interest with a monoclonal antibody that is specific for caveolin and which binds to oligomerized caveolin in its native state as an oligomeric structural cage surrounding intact caveolae, and separating caveolae that are bound to the antibody from other materials in the sample of interest, thereby producing purified caveolae.

2. (Original) The method of Claim 1, wherein the sample of interest is selected from the group consisting of: cultured cells, cells isolated from a tissue, cell lysate, tissue, and microsomes derived from cells or from a tissue.

3. (Original) The method of Claim 1, wherein the sample of interest is a sample of plasma membranes.

4. (Original) The method of Claim 1, wherein the sample of interest is a disrupted plasma membrane sample.

5. (Original) The method of Claim 1, wherein the sample of interest is initial fractions of starting material that has been subjected to a separation method based on density.

6. (Original) The method of Claim 1, wherein the antibody that is specific for caveolin is attached to a solid phase.

7. (Original) The method of Claim 6, wherein the solid phase is magnetic beads.

8. (Original) The method of Claim 1, wherein the immunoisolation method comprises incubating the sample of interest with an antibody that is specific for caveolin for a time period that is less than approximately 2 hours,

9. (Original) The method of Claim 8, wherein the immunoisolation method comprises incubating the sample of interest with an antibody that is specific for caveolin for a time period that is equal to or less than approximately one hour.

10. (Cancelled)

11. (Previously Presented) A method of producing purified caveolae, comprising the steps of:

providing a sample of interest comprising plasma membranes;

a) subjecting the sample of interest to a membrane disruption method, thereby producing a disrupted plasma membrane sample;

b) subjecting the disrupted plasma membrane sample to an immunoisolation method to separate caveolae from other materials in the disrupted plasma membrane sample, wherein the immunoisolation method comprises incubating the initial fractions with a monoclonal antibody that is specific for caveolin and which binds to oligomerized caveolin in its native state as an oligomeric structural cage surrounding intact caveolae, and separating caveolae that are bound to the antibody from other materials in the disrupted plasma membrane sample,

thereby producing purified caveolae.

12. (Original) The method of Claim 11, wherein the membrane disruption method of step (b) is shearing.

13. (Original) The method of Claim 11, wherein the membrane disruption method of step (b) is sonication.

14. (Original) The method of Claim 11, wherein the antibody that is specific for caveolin is attached to a solid phase.

15. (Original) The method of Claim 14, wherein the solid phase is magnetic beads.

16. (Original) The method of Claim 11, wherein the immunoisolation method comprises incubating the disrupted plasma membrane sample with an antibody that is specific for caveolin for a time period that is less than approximately 2 hours.

17. (Original) The method of Claim 16, wherein the immunoisolation method comprises incubating the disrupted plasma membrane sample with an antibody that is specific for caveolin for a time period that is equal to or less than approximately one hour.

18. (Cancelled)

19. (Previously Presented) A method of producing purified caveolae, comprising the steps of:

a) providing a sample of interest comprising plasma membranes;

b) subjecting the sample of interest to a membrane disruption method, thereby producing a disrupted plasma membrane sample;

c) subjecting the disrupted plasma membrane sample to a separation method based on density, thereby producing fractions of the disrupted plasma membrane sample, and collecting initial fractions of the disrupted plasma membrane sample;

d) subjecting the initial fractions of the disrupted plasma membrane sample to an immunoisolation method to separate caveolae from the initial fractions, wherein the immunoisolation method comprises incubating the initial fractions with a monoclonal antibody that is specific for caveolin and which binds to oligomerized

caveolin in its native state as an oligomeric structural cage surrounding intact caveolae, and separating caveolae that are bound to the antibody from other materials in the initial fractions,

thereby producing purified caveolae.

20. (Original) The method of Claim 19, wherein the separation method based on density of step (c) is sucrose density gradient centrifugation.

21. (Original) The method of Claim 19, wherein the immunoisolation method comprises incubating the initial fractions with an antibody that is specific for caveolin for a time period that is less than approximately 2 hours.

22. (Original) The method of Claim 21, wherein the immunoisolation method comprises incubating the initial fractions with an antibody that is specific for caveolin for a time period that is equal to or less than approximately one hour.

23. (Cancelled)

24. (Previously Presented) A method of producing purified caveolae, comprising the steps of:

a) providing a sample of plasma membranes from cells of interest;

b) subjecting the sample of plasma membranes to a membrane disruption method, thereby producing a disrupted plasma membrane sample;

c) subjecting the disrupted plasma membrane sample to a separation method based on density, thereby producing fractions of the disrupted plasma membrane sample, and collecting initial fractions of the disrupted plasma membrane sample;

d) subjecting the initial fractions of the disrupted plasma membrane sample to an immunoisolation method to separate caveolae from the initial fractions, wherein the immunoisolation method comprises incubating the initial fractions with a monoclonal antibody that is specific for caveolin and which binds to oligomerized

caveolin in its native state as an oligomeric structural cage surrounding intact caveolae, for a time period that is less than approximately 2 hours, and separating caveolae that are bound to the antibody from other materials in the initial fractions,

thereby producing purified caveolae.

25. (Original) The method of Claim 24, wherein the immunoisolation method comprises incubating the initial fractions with an antibody that is specific for caveolin for a time period that is equal to or less than approximately one hour.

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)